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L1: Entry 1 of 3

File: USPT

Jan 18, 2000

US-PAT-NO: 6016343

DOCUMENT-IDENTIFIER: US 6016343 A

TITLE: Call-processing system and method

DATE-ISSUED: January 18, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hogan; Steven J.	Cedar Rapids	IA		
Feltz; Kristi T.	Cedar Rapids	IA		
Murdock; Douglas R.	Cedar Rapids	IA		
Goodman; Todd A.	Cedar Rapids	IA		
Vercande; David J.	Cedar Rapids	IA		
Tangeman; Michael R.	Cedar Rapids	IA		
Busch; Eric M.	Cedar Rapids	IA		
Kripakaran; Raghavan	Cedar Rapids	IA		
Jayasimha; Madhigubba G.	Cedar Rapids	IA		
Smith; Keith E.	Cedar Rapids	IA		
Austin; Mark A.	Cedar Rapids	IA		
Berry; Dana Bruce	Cedar Rapids	IA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Link USA Corporation	Cedar Rapids	IA			02

APPL-NO: 08/ 697134 [\[PALM\]](#)

DATE FILED: August 20, 1996

PARENT-CASE:

This application is a division of application Ser. No. 08/136,211, filed Oct. 15, 1993, (now U.S. Pat. No. 5,590,181).

INT-CL: [06] [H04 M 3/00](#), [H04 M 7/00](#)

US-CL-ISSUED: 379/242; 379/267, 379/248, 379/230

US-CL-CURRENT: [379/242](#); [379/230](#), [379/248](#), [379/267](#)

FIELD-OF-SEARCH: 379/220, 379/221, 379/230, 379/265, 379/267, 379/248, 379/242, 379/260, 379/284

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

 Search Selected	 Search ALL	 Clear
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	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>4232199</u>	November 1980	Boatwright et al.	
<input type="checkbox"/>	<u>4577061</u>	March 1986	Katzeff et al.	
<input type="checkbox"/>	<u>4611096</u>	September 1986	Asmuth et al.	
<input type="checkbox"/>	<u>4625081</u>	November 1986	Lotito et al.	379/88
<input type="checkbox"/>	<u>4685127</u>	August 1987	Miller et al.	379/221
<input type="checkbox"/>	<u>4706275</u>	November 1987	Kamil	379/144
<input type="checkbox"/>	<u>4782519</u>	November 1988	Patel et al.	379/221
<input type="checkbox"/>	<u>4791640</u>	December 1988	Sand	370/58
<input type="checkbox"/>	<u>4893330</u>	January 1990	Franco	379/91
<input type="checkbox"/>	<u>5068891</u>	November 1991	Marshall	379/91
<input type="checkbox"/>	<u>5195086</u>	March 1993	Baumgartner et al.	370/62
<input type="checkbox"/>	<u>5222120</u>	June 1993	McLeod et al.	379/91
<input type="checkbox"/>	<u>5392345</u>	February 1995	Otto	379/220
<input type="checkbox"/>	<u>5402474</u>	March 1995	Miller et al.	379/267
<input type="checkbox"/>	<u>5436957</u>	July 1995	McConnell	379/230
<input type="checkbox"/>	<u>5452350</u>	September 1995	Reynolds et al.	375/230
<input type="checkbox"/>	<u>5528678</u>	June 1996	Kaplan	379/220
<input type="checkbox"/>	<u>5550904</u>	August 1996	Andruska et al.	379/220
<input type="checkbox"/>	<u>5586179</u>	December 1996	Stent et al.	379/265

ART-UNIT: 272

PRIMARY-EXAMINER: Matar; Ahmad F.

ATTY-AGENT-FIRM: Lyon & Lyon LLP

ABSTRACT:

A system and method for processing telephone calls and providing enhanced services is presented. The call processing system includes a network control processor for controlling the processing and routing of the calls and for providing enhanced features, and a matrix switch for routing calls from an originating location to a terminating location. Operator consoles can be included to provide operator assistance to the caller. The network control processor comprises a central message processor that receives call data, determines the type of call, determines the processing required, and determines whether operator assistance is required. A call route distributor allocates an operator console to the call if required. A billing server is used to track billing information for the call while it is in progress. A database server is provided for database look-ups and storage. The call processing system also includes a validation system, a billing system, a distribution system, and a fraud detection and prevention system. The validation system is used to

validate call information to determine whether the call can be placed. The billing system determines rates for calls and calculates the cost of completed calls. The distribution system distributes changes that are made to a master database to the appropriate slave database. The fraud detection and prevention system monitors originating and in-process calls to detect and possibly prevent possible fraudulent uses of phone services and systems. A client interface is provided to facilitate communications among applications and DEF records are used to define specific call processing actions.

22 Claims, 207 Drawing figures

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L1: Entry 3 of 3

File: USPT

Jul 8, 1997

US-PAT-NO: 5646989

DOCUMENT-IDENTIFIER: US 5646989 A

**** See image for Certificate of Correction ****

TITLE: Telephone apparatus

DATE-ISSUED: July 8, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tsuchida; Shinji	Zama			JP

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Canon Kabushiki Kaisha				JP	03

APPL-NO: 08/ 358388 [PALM]

DATE FILED: December 19, 1994

PARENT-CASE:

This application is a division of application Ser. No. 07/669,579 filed Mar. 14, 1991, now U.S. Pat. No. 5,420,918.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	2-68223	March 20, 1990
JP	2-68224	March 20, 1990
JP	2-118703	May 10, 1990

INT-CL: [06] H04 M 1/27

US-CL-ISSUED: 379/352; 379/372

US-CL-CURRENT: 379/352; 379/372

FIELD-OF-SEARCH: 379/375, 379/352, 379/92, 379/399, 379/372, 379/215, 379/373, 379/355, 370/110.1, 370/58.1, 370/60, 370/60.1

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected

Search ALL

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	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>5001709</u>	March 1991	Satoh	379/375
<input type="checkbox"/>	<u>5008884</u>	April 1991	Yazawa et al.	379/375

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
60-10992	January 1985	JP	
61-228799	October 1986	JP	
63-64495	March 1988	JP	

ART-UNIT: 261

PRIMARY-EXAMINER: Zele; Krista M.

ASSISTANT-EXAMINER: Saint-Surin; Jacques M.

ATTY-AGENT-FIRM: Fitzpatrick, Cella, Harper & Scinto

ABSTRACT:

Provided is an exchange system accommodating an ISDN circuit as a line wire, in which a channel of the line wire is capable of being selected by an operation performed at a connected telephone. If, in a state where the ISDN circuit has been selected by the connected telephone, a terminating request which has designated the channel in the selected state is received and this terminating request is answered, the selected state on the side of the connected telephone is cancelled. As a result, the operator on the transmitting side can be informed of the fact that the transmitting operation has been interrupted. Further, by denying the received terminating request which has designated the channel in the selected state, a situation in which a transmission from the selected channel can no longer be made is eliminated. Moreover, by performing control in such a manner that the terminating request is answered using another channel when the terminating request which has designated the channel of the ISDN circuit in the selected state is received, a situation in which a transmission from the selected line wire can no longer be made is eliminated. Performing such control improves the operability of the exchange system.

16 Claims, 10 Drawing figures

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L1: Entry 2 of 3

File: USPT

May 4, 1999

US-PAT-NO: 5901228

DOCUMENT-IDENTIFIER: US 5901228 A

TITLE: Commercial online backup service that provides transparent extended storage to remote customers over telecommunications links

DATE-ISSUED: May 4, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Crawford; Christopher M.	Washington	DC	20016	

APPL-NO: 08/ 813612 [PALM]

DATE FILED: March 10, 1997

PARENT-CASE:

This is a divisional application of application Ser. No. 08/145,825, filed Nov. 04, 1993 now U.S. Pat. No. 5,771,354, issued Jun. 23, 1998.

INT-CL: [06] H04 K 1/00

US-CL-ISSUED: 380/25; 380/49, 395/200.9, 395/200.15

US-CL-CURRENT: 705/34; 705/77, 709/217, 709/219, 709/238

FIELD-OF-SEARCH: 380/23, 380/25, 380/49, 380/4, 395/200.9, 395/200.15

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

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	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>4649479</u>	March 1987	Advani et al.	
<input type="checkbox"/>	<u>4901223</u>	February 1990	Rhyne	
<input type="checkbox"/>	<u>4954945</u>	September 1990	Inoue et al.	
<input type="checkbox"/>	<u>4982234</u>	January 1991	McConaughy et al.	
<input type="checkbox"/>	<u>4994963</u>	February 1991	Rorden et al.	
<input type="checkbox"/>	<u>5023774</u>	June 1991	Schuur	
<input type="checkbox"/>	<u>5089958</u>	February 1992	Horton	
<input type="checkbox"/>	<u>5109515</u>	April 1992	Laggis et al.	

<input type="checkbox"/>	<u>5210866</u>	May 1993	Milligan et al.	
<input type="checkbox"/>	<u>5276867</u>	January 1994	Kenley et al.	
<input type="checkbox"/>	<u>5317728</u>	May 1994	Tevis et al.	
<input type="checkbox"/>	<u>5353411</u>	October 1994	Nakaosa et al.	
<input type="checkbox"/>	<u>5404527</u>	April 1995	Irwin et al.	
<input type="checkbox"/>	<u>5426594</u>	June 1995	Wright et al.	
<input type="checkbox"/>	<u>5497479</u>	March 1996	Hornbuckle	
<input type="checkbox"/>	<u>5515502</u>	May 1996	Wood	
<input type="checkbox"/>	<u>5544320</u>	August 1996	Konrad	395/200.09
<input type="checkbox"/>	<u>5696901</u>	December 1997	Konrad	395/200.09

ART-UNIT: 276

PRIMARY-EXAMINER: Cain; David C

ATTY-AGENT-FIRM: Nixon & Vanderhye P.C.

ABSTRACT:

A user can use his personal computer to call up an on-line service system over a telecommunications link such as a telephone line. The On-line system provides all sorts of useful services to the personal computer such as antiviral protection, auxiliary processing capabilities, and other features that are impractical or inconvenient to provide locally.

173 Claims, 68 Drawing figures

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L1: Entry 1 of 3

File: USPT

Jan 18, 2000

US-PAT-NO: 6016343

DOCUMENT-IDENTIFIER: US 6016343 A

TITLE: Call-processing system and method

DATE-ISSUED: January 18, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hogan; Steven J.	Cedar Rapids	IA		
Feltz; Kristi T.	Cedar Rapids	IA		
Murdock; Douglas R.	Cedar Rapids	IA		
Goodman; Todd A.	Cedar Rapids	IA		
Vercande; David J.	Cedar Rapids	IA		
Tangeman; Michael R.	Cedar Rapids	IA		
Busch; Eric M.	Cedar Rapids	IA		
Kripakaran; Raghavan	Cedar Rapids	IA		
Jayasimha; Madhigubba G.	Cedar Rapids	IA		
Smith; Keith E.	Cedar Rapids	IA		
Austin; Mark A.	Cedar Rapids	IA		
Berry; Dana Bruce	Cedar Rapids	IA		

US-CL-CURRENT: 379/242; 379/230, 379/248, 379/267

ABSTRACT:

A system and method for processing telephone calls and providing enhanced services is presented. The call processing system includes a network control processor for controlling the processing and routing of the calls and for providing enhanced features, and a matrix switch for routing calls from an originating location to a terminating location. Operator consoles can be included to provide operator assistance to the caller. The network control processor comprises a central message processor that receives call data, determines the type of call, determines the processing required, and determines whether operator assistance is required. A call route distributor allocates an operator console to the call if required. A billing server is used to track billing information for the call while it is in progress. A database server is provided for database look-ups and storage. The call processing system also includes a validation system, a billing system, a distribution system, and a fraud detection and prevention system. The validation system is used to validate call information to determine whether the call can be placed. The billing system determines rates for calls and calculates the cost of completed calls. The distribution system distributes changes that are made to a master database to the appropriate slave database. The fraud detection and prevention system monitors originating and in-process calls to detect and possibly prevent possible fraudulent uses of phone services and systems. A client interface is provided to facilitate communications among applications and DEF records are used to define specific call processing actions.